

Rock Island Arsenal Historical Housing Assessment Report

US Army Garrison Rock Island Arsenal
Rock Island, Illinois



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Executive Summary

1.1 Purpose

The Rock Island Arsenal (RIA), Historical Housing Assessment Report has been prepared as a means of identifying issues in construction, code violations, maintenance, and historical relevance. This assessment documents and evaluates the existing conditions and provides possible solutions/alternatives for future upkeep for both long and short term improvements. This assessment results in line items of work and cost for each housing unit evaluated for later consolidation into projects appropriate for execution by various funding sources.

1.2 Scope

This document is to catalog the issues and the maintenance needed to correctly reestablish the livability, operability and historic value of the following facilities:

- Quarters 1 (also known as Building 301)
- Quarters 2
- Quarters 3
- Quarters 4
- Quarters 6
- Quarters 7
- Quarters 30
- Quarters 31
- Quarters 23 (also known as Building 70)
- Quarters 34 (also known as Building 81)

1.3 Authorization

This report was prepared by a joint team from the Louisville, Rock Island and Seattle Districts of the US Army Corps of Engineers for the US Army Garrison Rock Island Arsenal's Directorate of Public Works.

1.4 Applicability

The following establishes individual items of work needed to bring these facilities to their historical grandeur. Items of work are categorized as pertaining to "Life Safety/Building Code", "Failed/Failing", "Preventive", "Historic", "Aesthetic", and "New Work".

1.5 Assessment Summary

In general, the surveyed buildings are in very good condition for their age. Most of the recommended work items identified are for updates to electrical, mechanical and plumbing systems. While many of the recommended improvements and repairs are typically minor in nature, their associated costs are usually significantly impacted by the presence of lead based paint and asbestos. A detailed listing of work item and costs are contained in Appendix A.

2

Introduction

2.1 Location and Description

The US Army Garrison Rock Island Arsenal (RIA) is an active Army installation located on a 946-acre island in the Mississippi River between Rock Island, IL, and Davenport, IA. The reservation is approximately three miles long and nearly one mile wide at its widest point. RIA is home to over 60 tenant organizations that provide critical products and services to all of the Armed Services. The Garrison is a subordinate to the Installation Management Agency Northwest Region.

2.2 Methodology

This report aims to document the historic properties which are government-owned. Inventory data was collected during a site visit by the following disciplines during 7-8th of June 2005; Architectural, Civil, Electrical, Historical, and Mechanical. Each discipline was tasked with conducting a detailed survey of 10 historical government housing units, to identify maintenance and/or repair issues necessary for restoring these units to their original grandeur while remaining fully functional in the family housing inventory.

The combined architectural, historical, and technological documentary research and the field inventory are based upon the information developed according to the historical significance and maintenance needs.

- *Step 1: Information Gathering.* Site visit was conducted to inventory facility conditions as a means of tabulating issues and repair needs.
- *Step 2: Matrix Assessment.* Create a comprehensive spreadsheet categorizing issues, solutions, and proposed quantity/cost of repair needs.
- *Step 3: Resource Analysis.* Steps 1 and 2 are to be documented in a narrative format.

3

Historical Resources

3.1 Installation Historical Context

RIA has a variety of historic resources, which can be found on the installation, and in the surround communities, thus efforts have been made to preserve and protect these resources. RIA was listed on the National Register of Historic Places (NRHP) in 1988 with many of its government/military-owned buildings dating back to the Civil War. Historic points of interest on Arsenal Island are: The Rock Island Arsenal Museum; Confederate Cemetery; National Cemetery; the original, 19th century stone workshops; officer's quarters along the river; COL Davenport's House; and the site of the first bridge built across the Mississippi.¹

3.2 Restoration/Modernization Historic Quarters²

3.2.1 General Information

These Quarters are National Historic Landmarks. Construction of the Officers Quarters began in 1871. Originally four stone Quarters were constructed, Quarters 1, 2, 3, and 4. These Quarters share a common style of design and construction. Quarter's 1 is the single largest quarters in United States Army and the second largest residence in the Federal Government. Quarters 6 was built in 1905 and Quarters 7 was constructed in 1902 to accommodate new officers who were assigned to organize and supervise the production of a new rifle at the Arsenal's small arms plant, the Springfield 1903. The above Quarters were intended to serve as symbols of the US Army and cultural resources to both the region and the Nation. Quarters 34 (Building 81) was constructed as a multi purpose facility in 1907. It provided quarters for the hospital steward, as well as space for the dispensary, as emergency treatment room and the base surgeon's office. In 1946 the building was converted to Army Family Housing. Quarters 30 and 31 were built between 1910 and 1912 to serve as the lock officer's and lock tender's residences, these houses reflect the Island's role as a part of the Moline Navigation Lock, and the Island's place in the history of the navigation of the Mississippi River. Both houses were converted to Army Family Housing with the opening of Lock and Dam 15 in 1934. The National Historic Preservation Act requires that all of these Historic residences be maintained in accordance with the historic preservation standards established by the Secretary of the Interior.

These Quarters serve not only as Army Family Housing, but also as a civic and cultural resource for the region. In the Army's role as partner in the community, these Quarters serve as a significant asset. Official and social events at the Quarters have been organized to honor, educate and involve; dignitaries, luminaries, leaders and citizens from all walks of life and from all corners of the globe. These Quarters play a significant roll in projecting the image of the Rock Island Arsenal, the United States Army, and the Federal Government. Over the last 30 years funding limitation and time have tarnished that image.

¹ <http://www.globalsecurity.org/military/facility/rock-island.htm>

² Army Regulation 420-40, Historic Preservation (Headquarters, U.S. Army: Washington, D.C., 15 April 1984).

3.3 Historical Quarters Inventory

Building Number	CATCD	Building Primary Use	Year Built	Sq. Ft.	NRHP Rank	District
00002	71112	Family Housing	1874	7,218	1	NHL
00003	71112	Family Housing	1872	8,990	1	NHL
00004	71111	Family Housing	1872	8,754	1	NHL
00006	71112	Family Housing	1905	9,604	2	NHL
00007	71112	Family Housing	1902	6,424	3	NR
00030	71112	Family Housing	1912	3,617	3	NR
00031	71112	Family Housing	1910	3,414	3	NR
00070	71113	Family Housing	1934	2,934	3	NR
00081	71112	Family Housing	1907	4,893	3	NR
00301	71111	Family Housing	1872	21,965	1	NHL

Note 1: Building 70 is actually Quarters 23

Note 2: Building 81 is actually Quarters 34

Note 3: Building 301 is actually Quarters 1

Table 1: Rock Island Arsenal Historical Building Inventory

4

Preservation Recommendations

4.1 Background

Army Regulation 420-40 requires that an historic preservation plan be developed as an integral part of each installation's planning and long range maintenance and development scheduling.³ The purpose of such a program is to:

- Preserve historic properties to reflect the Army's role in history and its continuing concern for the protection of the nation's heritage.
- Implement historic preservation projects as an integral part of the installation's maintenance and construction programs.
- Find adaptive uses for historic properties in order to maintain them as actively used facilities on the installation.
- Eliminate damage or destruction due to improper maintenance, repair, or use that may alter or destroy the significant elements of any property.
- Enhance the most historically significant areas of the installation through appropriate landscaping and conservation.

4.2 Site Visit (Historical Quarters)

Table 5 depicts the date and housing unit visited by the following participants: team from the Rock Island and Louisville Districts, an Architectural Historian from Seattle District Corps of Engineers, Public Works personnel, and RIA's Housing Manager. Several attempts were made to invite the Illinois State Historic Preservation Officer to accompany the team however arrangements could not be finalized prior to the scheduled site visit.

June 7 th	June 8 th
Quarters 2	Quarters 6
Quarters 3	Quarters 7
Quarters 4	Quarters 23
Quarters 30	Quarters 34
Quarters 31	Quarters 1

Table 5: Site Visit: Date & Quarter

4.3 Recommendations

The primary recommendations offered by the team's Architectural Historian center on returning the architectural details to their original intent while keeping operation and maintenance costs in mind.

4.3.1. Remove all aluminum storm windows.

- While the intended purpose of the existing storm windows is to protect the window sash from weather deterioration, they in fact trap moisture increasing the potential for rotting of the wood sashes.

³ Army Regulation 420-40, Historic Preservation (Headquarters, U.S. Army: Washington, D.C., 15 April 1984).

4.3.2. Replace asphalt shingles on sloped roofs with slate shingles.

- While the initial cost of slate roofing is significantly more than asphalt and other forms of roofing, slate roofs have a life span that will more than pay back over the life of the roof.

4.3.3. Replace existing EPDM on flat roofs with historically correct copper roofing.

- Also recommend that the copper roofing be applied over a tapered insulation board (covered with an ice and water shield barrier) to increase drainage away from the structure. The longevity of the copper material will outweigh the higher initial installation cost.

4.3.4. Replace existing deteriorating exterior stucco finishes

- Use a sprayed on color-tinted gunite/shotcrete material to provide a permanent finished surface that will not require periodic painting.

4.3.5. Recommend use of request for proposal type contracting

- Versus design/bid/build type for restoration work. Restoration is a type of work best left to qualified firms specializing in the historic restoration field. These firms keep abreast of technologies and techniques that can reduce costs while achieving the desired results.

5

Field Inspection

5.1 Overview of Inventory Process

The following narrative describes and explains some of the common deficiencies observed during the field inspections. This narrative serves as a collaborative overview of Architectural, Civil, Structural, Electrical, Historical, and Mechanical aspects.

Each property was visually evaluated and surveyed to identify whether or not the facility appearance meet historical standards. The team used professional judgment to evaluate and identify whether or not each facility meet code compliance. Maintenance and repair items as well as other improvements to increase the livability of the quarters were also noted.

5.2 Architectural

5.2.1. *General*

- The Quarters, as a whole, are in good condition architecturally. Much of the architectural fabric remains intact and is only in need of routine maintenance. Unfortunately, the sheer size of the buildings and their historic nature make these homes difficult, if not impossible, to keep up adequately with the limited funding the caretakers are given. Despite the homes relatively good condition, if the issues presented here are not addressed, conditions could deteriorate to the point that repairs to the original historic fabric may be nearly impossible due to the extreme cost or the loss of the feature.

5.2.2. *Exterior Façade and Finishes*

- The porches on these homes are sorely in need of new paint and repair work to the steps, decking, and in some cases, the supports. In year's past, screens were added to the porches to make them more usable. Unfortunately, the design of the existing screens has not allowed easy removal of water off the deck. This has caused some rotting of the deck boards, fascia, and support structure of the deck (See Figure 1). The porch screens need to be replaced with a new screen design that allows water to more easily be removed from the deck. The deck itself on most of these homes needs some repair and a coating of high quality paint. The ceilings also are in need of new paint as well as new lighting, preferably historic period reproduction lighting to enhance the historic features of the structures (See Figure 2). The roof materials on many of the porches are also in need of replacement.



Figure 1: Deteriorated deck boards



Figure 2: Quarters 1, Porch

- The exterior façade's of the homes range from stone and brick, to stucco, to painted wood. The exterior stone and brick are all in excellent condition except for some minor spalling at sills and ledges.

Most of the stone Quarter's façade's are in need of a mild cleaning to remove general dirt and some areas of discoloration. The stucco finish on two of the Quarters has been painted over the years and the paint is cracking and crazing. The stucco itself is deteriorated to the point of falling off in large pieces in some areas. The stucco is probably past the point of repair and needs to be replaced in its entirety. One of the Quarter's is finished with painted wood siding and shakes. The existing paint is in very poor condition, cracking and peeling off, and it has been tested and shown to be lead-based. Additionally, the colors currently on the home's exterior appear not to be similar to the original as indicated by photographs. For safety reasons, all the paint on this home's siding should be removed and the siding repainted with high quality primer and paint in a color historically accurate. The shakes should be removed and disposed of properly as it will not be possible to remove the lead paint without destroying the shakes. The shake siding will then need to be replaced with new shakes.

5.2.3. Roof Quality

- The original slate roofs on most all the Quarters' main roofs have been replaced with asphalt shingles. Although the shingles are in relatively good condition, the roofs should be brought back to the original historical appearance by installing slate back on the roofs. Additionally, the flashing at eaves and roof penetrations needs to be replaced, or installed, on most roofs.
- The existing flashing, or lack of flashing, has caused damage to some roof decking, chimneys, and soffits which also will need to be repaired.
- The flat roof areas, such on the porches, also need replacement as they are nearing the end of their lifespan. Many of these porch roofs also appear to have little or no slope, allowing water to pond and cause damage to the roof and roofing materials. It would be beneficial to install some tapered insulation boards to direct water off a new roof of copper and an ice and water shield.

5.2.4. Interior

- The interior of the homes are also in excellent condition architecturally. Many of the original features are still intact such as the doors, windows, shutters, trim, built-in cabinetry, ornamental plaster moldings, and some of the original light fixtures. Unfortunately, much of the interior woodwork has been painted over the years, sometimes so many times that the detail is starting to be lost. This has also made many of the windows inoperable. Removal of the paint would be beneficial to bring the woodwork back to its original natural beauty, help the windows to operate again, and to remove much of the hazardous lead paint from the home.
- The homes would also benefit from remodeling of the bathrooms and some of the kitchens in order to make them more functional and aesthetically pleasing. The appearances, most of them were last updated in the 1950's or 1960's, and functionality of the current state of most of the kitchens and bathrooms do not correspond to the size and grandeur of the homes. Remodeling them to include modern fixtures and finishes, preferably with historic period reproduction fixtures, would greatly improve the aesthetics and functionality of these rooms.

- The interior walls of these homes are all lath and plaster which are all in still relatively good condition with just some minor cracking which could be easily repaired with a small amount of plaster work and repainting of the walls. Fresh paint and plaster on the interior would also help lessen the hazard of lead paint which may be on the walls. Some rooms' walls have been covered with wall coverings which are showing their age and have begun to peel because of cracking and deteriorating plaster beneath. These wall coverings need to be removed and the plaster properly repaired.



Figure 6: Quarters 1, Deteriorating wall and ceiling of 3rd floor

- The plaster walls and ceilings of the rooms on the 3rd Floor of Quarter's 1 are in the worst condition with major cracks and deterioration throughout (See Figure 6). Much of this is probably due to the area being closed off without proper climate control. The extremes in heat and cold are most likely the cause of the extreme damage to the plaster as well as other finishes on the 3rd floor of Quarters One. This issue needs to be addressed as soon as possible before much of the original fabric comprising the 3rd floor is beyond repair.
- The interior decorative plaster elements, such as crown moldings and ceiling medallions are all in fairly good condition. Some minor work is required by a skilled artisan to repair some small damaged or deteriorated areas in various homes.
- Some other interior features that could be enhanced include installing gas burning log sets into all the existing fireplaces which currently cannot be used for burning wood logs because of their shallow depth originally intended for coal; replacing door, window, and shutter hardware that has been lost or replaced with reproductions of their original hardware; and reroute electrical and communications wiring from

surface mounted to within the walls when completing plaster repairs and installing period reproduction fixtures to replace outdated fixtures where appropriate.

5.3 Civil / Structural

5.3.1 *Grounds around the building*

- Many of the asphalt drives to the building were in satisfactory condition, but were starting to crack. Asphalt drives should be patched and sealed.
- Some sidewalks and asphalt parking areas were adjacent to the building foundations. If not properly sloped away from the building, drainage against the foundation could be a problem. Remove and relocate sidewalks and parking areas as appropriate and landscape around the foundation.
- Roof downspouts had PVC extensions to carry the water away from the foundations. Many were disconnected from the downspout, thereby creating a drainage problem against the foundation. Securely fasten extensions and/or bury in ground to a French drain.

5.3.2 *Building Exterior*

- The exterior stone and brick walls were generally in good condition except for the need of tuck-pointing 10-25 % of the joints in the walls and foundations.
- Many of the stone exterior porch steps and stone window sills (See Figure 10) were starting to delaminate. Repair is difficult, so steps and sills should be replaced.



Figure 10: Typical stone window sill deterioration

- The storm windows on the buildings are trapping moisture between the interior window and the storm resulting in peeling paint and deteriorated window caulk. Painting of the window trim and caulking of the window panes is recommended.
- In general, paint is peeling on all the porch trim including the wood floor, columns, iron supports and trim, and the porch screen framing (See Figure 11). The porch screening needs to be modified to allow water drainage off the porch floor.



Figure 11: Typical porch deterioration

- The EPDM porch roofing has reached its life expectancy and should be replaced before major damage occurs.
- Wood soffits under the roof show signs of water damage as well as peeling of paint (See Figure 12). Leaks should be repaired and soffit material replaced and repainted.



Figure 12: Quarters 1, example of soffit deterioration

- Most of the roofs have asphalt shingles that are generally in good condition. However some leaks have occurred in the built-in roof gutter EPDM and flashing around the chimneys. Repair as necessary. Also, some of the downspouts are too small which result in clogging or overflow during heavy rainstorms. Downspouts and roof inlets should be modified to handle any storm situation.
- Chimneys should be tuck-pointed as necessary.
- Two building have deteriorated skylights that need replacement.

5.3.3 Building Interior

- The basement foundation walls were generally in good condition. However many basements had mold and mildew on the walls which indicates lack of dehumidification. Walls should be cleaned and proper dehumidification installed.
- Many of the basement walls had a paint or sealer on the walls which is peeling. This coating has probably caused deterioration of the stone or brick walls in a few locations. Recommend that coating be removed and deteriorated walls repaired.
- A few basement interior walls are constructed of wood. Some of these walls are load bearing and have rotted due to water damage. Walls need to be repaired and bases elevated to avoid water damage.
- Most of the buildings have a boiler system and piping that is insulated with asbestos. If boiler system and piping is modified, all asbestos should be abated.
-

5.4 Electrical

5.4.1 General

- Out of 10 buildings, only 2 did not have newer electrical service entrances, and will require maintenance/modifications to bring the facility up to today's standards.
- The remaining 8 buildings with the newer service entrances (ranging from 3 to 6 years old), appear to have had at least partial replacement of the original wiring in the basements. The remaining floors (above the basement) appear to have mostly knob and tube wiring. Internal wiring in Quarters 4 and 6 has been updated more recently (circa 1990) and do not require internal wiring replacement. Most knob and tube wiring is installed without using conduit, or other methods that would make replacement of this wire much simpler. Replacement of the knob and tube wire will be a challenge to fish new through existing walls, and to use as little surface mount raceway as possible. Where surface mount raceway is required, it may be possible to blend it in with the wood molding along the floors, and around the doors.

5.4.2 *Knob and Tube Wiring*⁴

- Older electrical systems can have many interesting aspects to them. Knob and tube wiring gets its name from the knobs (or insulators) used to keep the wires isolated from objects and the ceramic tubes used to line holes, for example, through wooden floor joists. This type of wiring can be found in homes over 50 years in age unless it has been updated and it may be found with older 60 amp (or less) services.



Figure 15: Knob and tube wiring, ex. 1



Figure 16: Knob and tube wiring, ex. 2

⁴ http://www.grassroots.ca/homeowner_help_articles/knob_tube_wiring_v2.html

- Although the knob and tube wiring used may largely be no different from that used today, it consists of only a hot (black) and neutral (white) wire and no ground wire. Both wires must run separately to fixtures as opposed to modern wiring which is contained within a single plastic sheathing. In addition, junction boxes and metal raceways for housing electrical connections were seldom, if ever, used in knob and tube wiring.
- Although it is a workable system, and safe when installed and used properly, there are some concerns with this knob and tube wiring system. For example:
 - there is no ground wire (for more modern lifestyle requirements and safety),
 - a fear exists that the black and white wires can make contact (a potential fire and safety hazard),
 - the rubber and cloth insulation around the knob and tube wiring breaks down over time (a potential fire and safety hazard),
 - costly to maintain, or even install this type of wiring today, and
 - insurance companies are now refusing to provide home owners insurance for homes which use this type of wiring system.

5.4.3 Code Assessment

- (NEC 250-79 & NEC 250-114(a)) Improper or no connections of bonding wires to boxes or equipment; Grounding receptacles only had a neutral and a hot connected, and require either a ground connection, or a GFI receptacle.



Figure 17: Non-grounded receptacle, ex. 1



Figure 18: Non-grounded receptacle, ex.2

- (NEC 210-8) Ground fault protection missing in some locations like bathrooms, garages, and porches. Several locations the neutral and ground wires appeared to be swapped (see Figure 18). This could have been caused when reconnecting the existing knob & tube wiring to the new service panel. In some cases, both blades and the ground of the receptacle appeared to be hot, almost as though there were a high-impedance short within the receptacles. All receptacles need to be verified by a qualified electrician. This is a safety issue.
-

5.5 Mechanical

5.5.1 All Units

- The existing cooling systems consist of window air conditioners. The use of these window units detract from the historical nature of the quarters and are having a negative impact on the structures as condensate from the units are discoloring and/or deteriorating the facades. The window units should be replaced in conjunction with the quarters heating considerations.
- The domestic water piping is a mixture of galvanized and copper in the basement. The piping in the walls was not verified. The existing galvanized piping in the basement should be eliminated and proper dielectric unions should be installed as required.
- In order to control moisture in the bathrooms, exhaust fans should be installed. The exhaust fans on the first floor could be ducted down to the basement and out through the exterior wall. The bathrooms on the second floor could be ducted up and out thru the roofs. For quarters with three occupied floors (Quarters 1 and 6) the second floor bathrooms would need to be discreetly ducted through the third floor finished areas prior to exhausting through the roof.

5.5.2 *Quarters 1 and 6*

- The existing heating system consists of a natural gas fired steam boiler located in the basement, steam and condensate piping, and radiators (located on the first two floors).



Figure 21: Quarters 1 Steam Boiler



Figure 22: Steam and Condensate Piping – Asbestos Insulated

- Due to the construction of the structure, a central forced air furnace, ductwork, and condensing unit system is not feasible as a retrofit approach. The RIA does not want to pursue the use of natural gas as the source of heat but instead requests geothermal heat pumps to be used. With this in mind, the recommended replacement of the existing heating and cooling systems would include the possible use of heat pumps and ductwork in the basement to heat and cool the first floor; and individual heat pumps and geothermal loop piping in place of the steam and condensate piping for the second and third floors. This would allow for greater flexibility in zone control of the building, especially if an entire floor were unoccupied.



Figure 23: Typical Cast Iron Radiator

6 Conclusion

Although much of the general construction, condition, and features of these housing quarters are similar, each Quarter's has its own unique features, many of which have not been discussed in each narrative. Appendix A provides a cost estimate for each facility as it pertains to the amount of construction and maintenance needed to during the rehabilitation process. Moreover, these cost estimates provides more details of the unique features which need work along with an estimated quantity of work required for each feature to give a better understanding of the extent of repairs required for each individual home as well as the magnitude of size of these structures.

APPENDIX A Cost Worksheets

The following cost worksheets provide a listing of the work identified for each surveyed quarters. These programming level costs are provided for each line item of work in July 2005 price levels. This cost information is presented as an “order of magnitude” based on best professional cost engineering judgment. These costs do not include items such as design and supervision and inspection. Many of the line items of work are significantly impacted by the presence of lead paint and asbestos containing materials. Every effort has been made to capture the cost impacts of this situation.

In certain instances, alternative solutions have been presented for an identified issue which where then estimated as another line item. Hence, summing all the line items including the alternatives cited for a particular quarters will over estimate the cost of the work required.

The intent is to provide the DPW a menu of work items that can be selected and packaged into various projects for funding and execution. This flexible approach allows work to be completed either by individual quarters such as in anticipation of an upcoming vacancy; or by common work type such as roof replacement for all quarters.

NOTE: ALL DOLLAR AMOUNTS IN THE UNIT COST AND TOTAL COST COLUMNS HAVE BEEN DELETED.

QUARTERS 1 COST WORKSHEET

ISSUE	SOLUTION	QUANTITY	UOM	Unit Cost	COST	BASIS OF REPAIR					
						LIFE SAFETY/ BUILDING CODE	FAILED FAILING	PREVENTIVE	HISTORIC	AESTHETIC	NEW WORK
EXTERIOR:											
Façade showing dirt and mold	Detergent wash entire façade	19,000	SF							X	
Roof:											
Secondary Skylight Deteriorated/Leaking	Replace in Kind	1	EA				X				
Moisture Behind and Under Soffits	Replace flashing with copper over rubber	1,265	SF				X				
EPDM flat roofing reaching end of life (Tower, porches, bays)	Replace with copper over Ice and Water Shield barrier	2,600	SF				X		X		
Shingles damaged/not historically correct	Replace sloped roofs with slate	6,150	SF				X		X		
	or										
	Replace missing shingle in kind	1,845	SF				X				
Downspout drainage not functional	Install drainpipe to new french drain	12	EA				X				

QUARTERS 1 COST WORKSHEET

Porches:											
East porch has rotted wood decking, joists and supports	Replace in kind	1,150	SF				X				
East Porch and Portico - Rusting of Iron Framework	Sandblast and Repaint	2,100	SF				X				
North and East Porches, Portico, South Rear Entrance Roof, and Bays - Fascia and soffit paint is deteriorated	Remove loose paint, repair any damaged wood, and repaint	3,700	SF				X				
North Porch and South Rear Entrance Columns - Paint is deteriorated	Remove loose paint, repair any damaged wood, and repaint	450	SF				X				
North and East Porch - Bottom of screen frames rotting and trapping water causing decking to retain water and also rot	Replace existing screens with new design to allowing opening at junction with decking.	2,865	SF					X			
North and East Porches, Portico, and South Rear Entrance Roof - Porch ceilings peeling paint	Scrape and paint ceilings	2,060	SF				X				
North Porch - Ends of porch deck and fascia boards typically deteriorated	Replace deck and fascia boards	500	SF				X				
	or										
	Epoxy repair ends of deck and fascia boards and paint	270	SF				X				

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]